

AMC-ANT-2JE41

868MHz ISM surface mount antenna

Features

- 868MHz ISM
 - 863 - 870MHz
- Surface mount
- Easy to integrate
- Compact size
- Fibreglass material
- Ground plane dependent
- Dimensions: 12 x 4 x 1.6mm



1. Antenna and electrical specifications

| | |
|----------------------|---------------------------|
| Parameters | 868MHz ISM antenna |
| Standards | LoRa, Sigfox, ZigBee, ISM |
| Band (MHz) | 868 |
| Frequency (MHz) | 863 - 870 |
| Return Loss (dB) | ~-13.9 |
| VSWR | ~1.5:1 |
| Efficiency (%) | ~52.4 |
| Peak Gain (dBi) | ~2.2 |
| Average Gain (dB) | ~-2.8 |
| Impedance (Ohms) | 50 |
| Polarisation | Linear |
| Radiation Pattern | Omni-directional |
| Max. Input Power (W) | 1 |

Antenna measurement conditions:

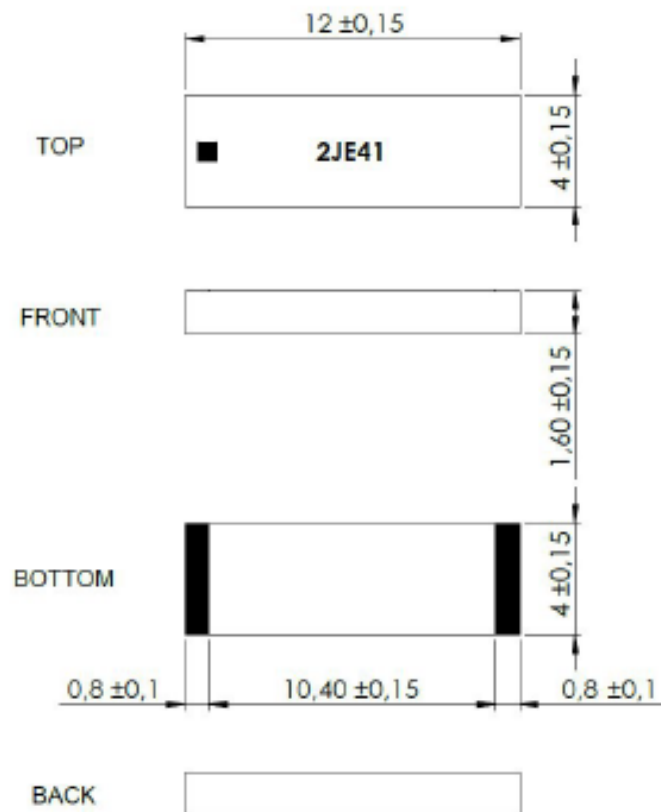
Mounted on ground plane of 50 x 90mm

Measured in certified CTIA 3D anechoic chamber



2. Mechanical and environmental specifications

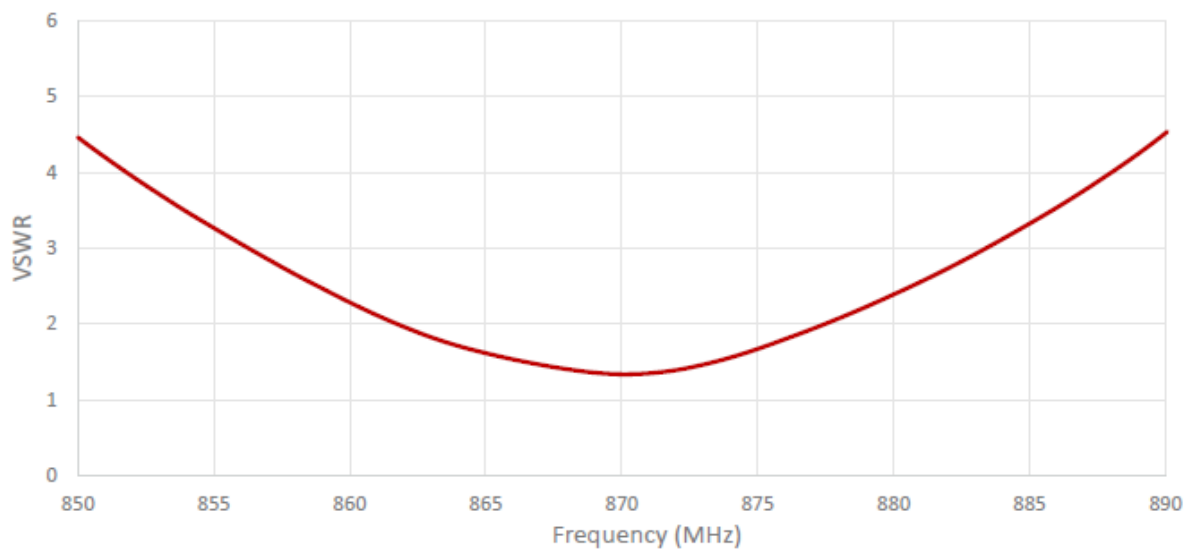
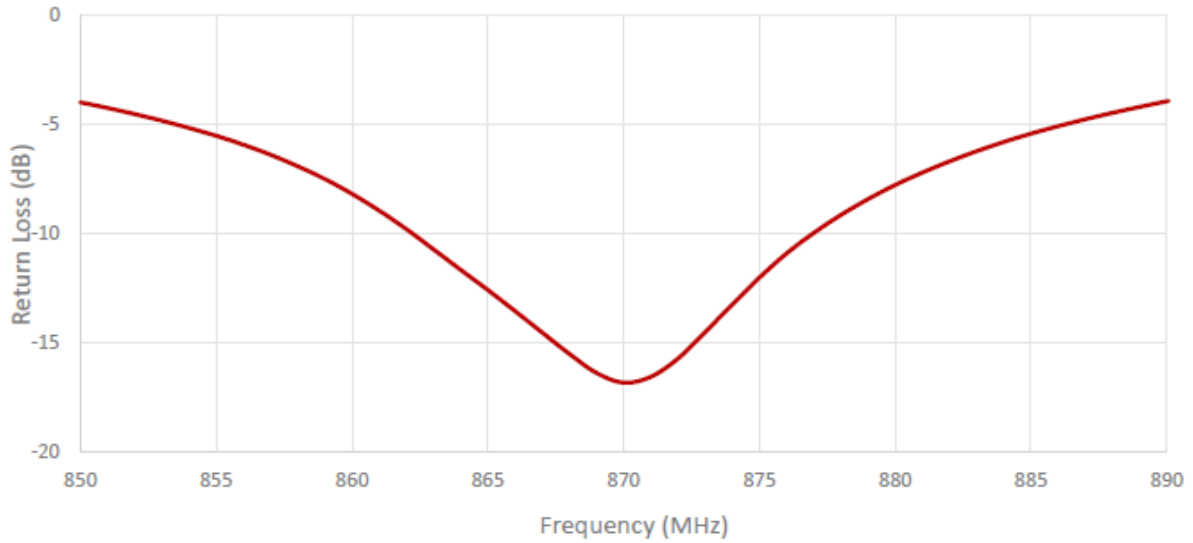
| | |
|-----------------------------------|---------------------------------------|
| Mounting Type | Surface mount |
| Dimensions (mm) | 12 x 4 x 1.6 |
| Material | Fibreglass |
| Operating Temperature (°C) | -40 to +85 |
| Storage Temperature (°C) | -40 to +85 |
| Substance Compliance | RoHS |
| Typical Shear Force Test | 10Kgf according to IEC 62137-1-2:2007 |

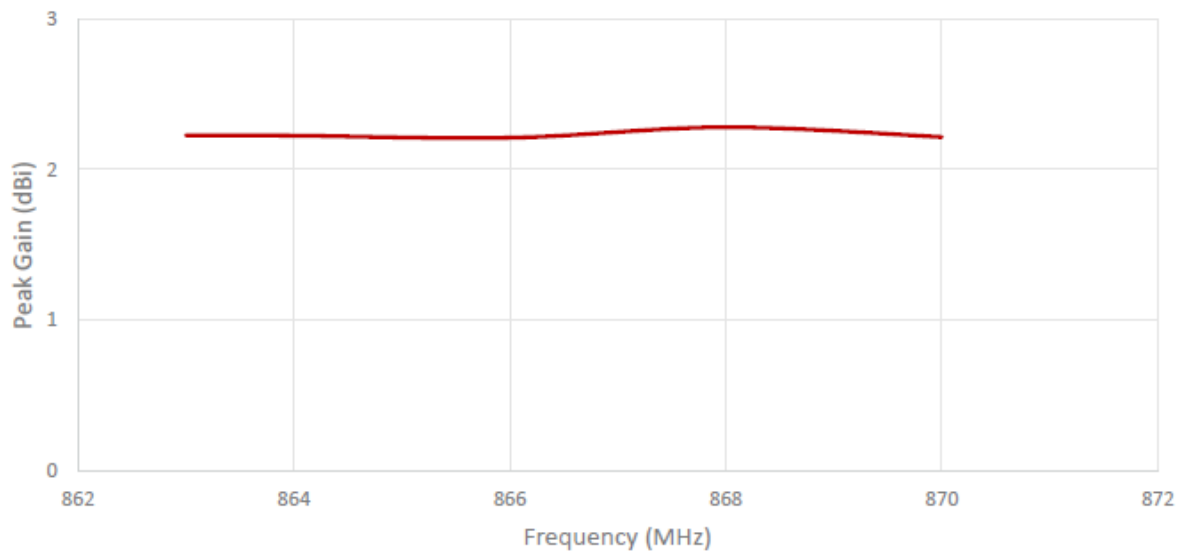
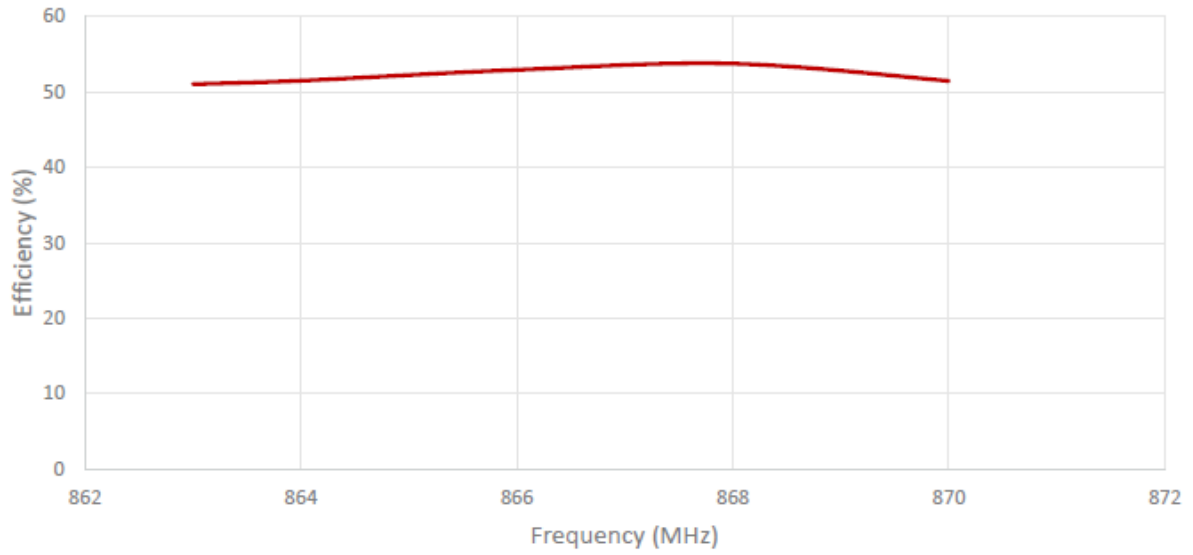


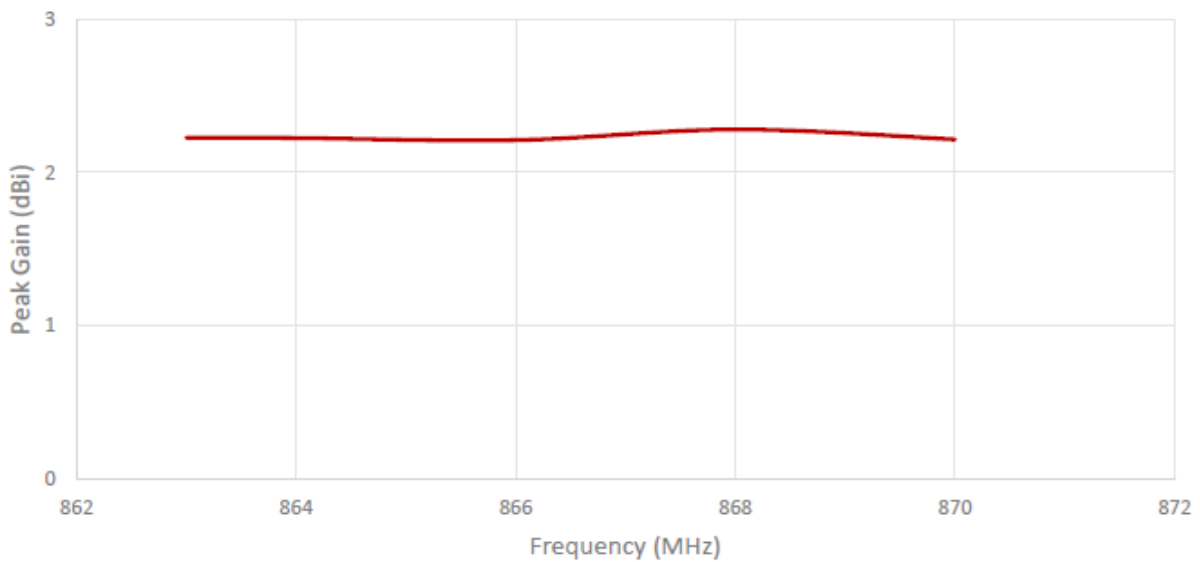
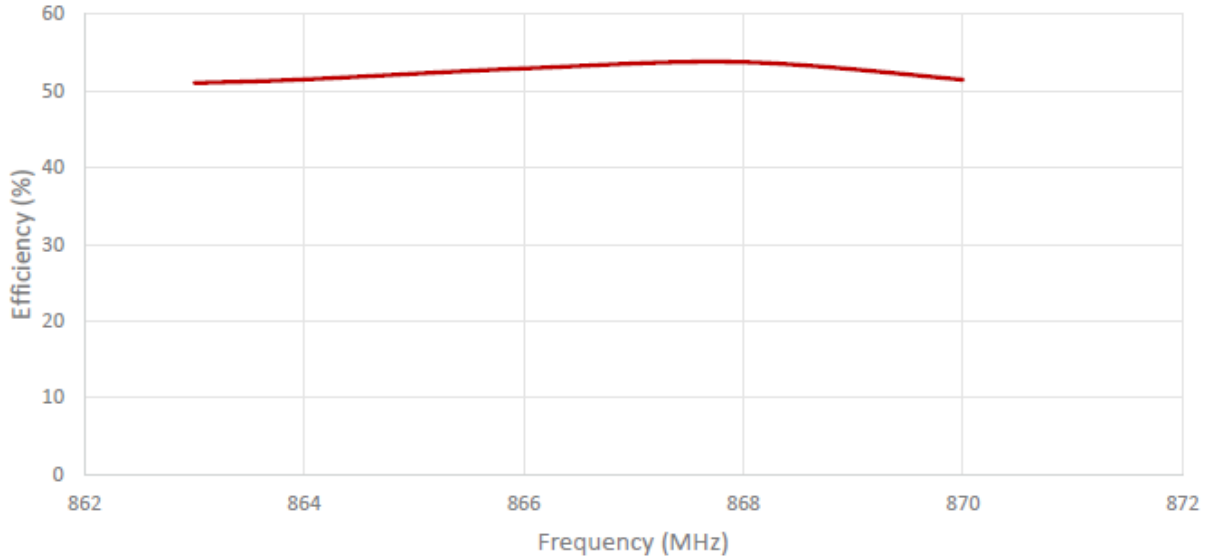
fiberglass antenna body (mm)

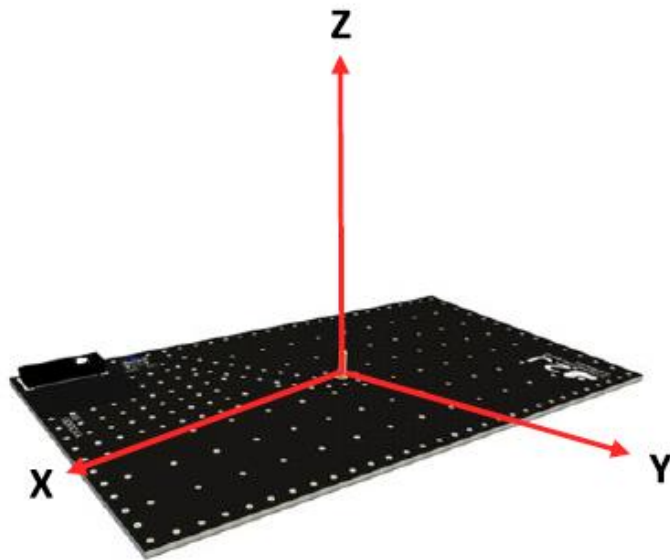
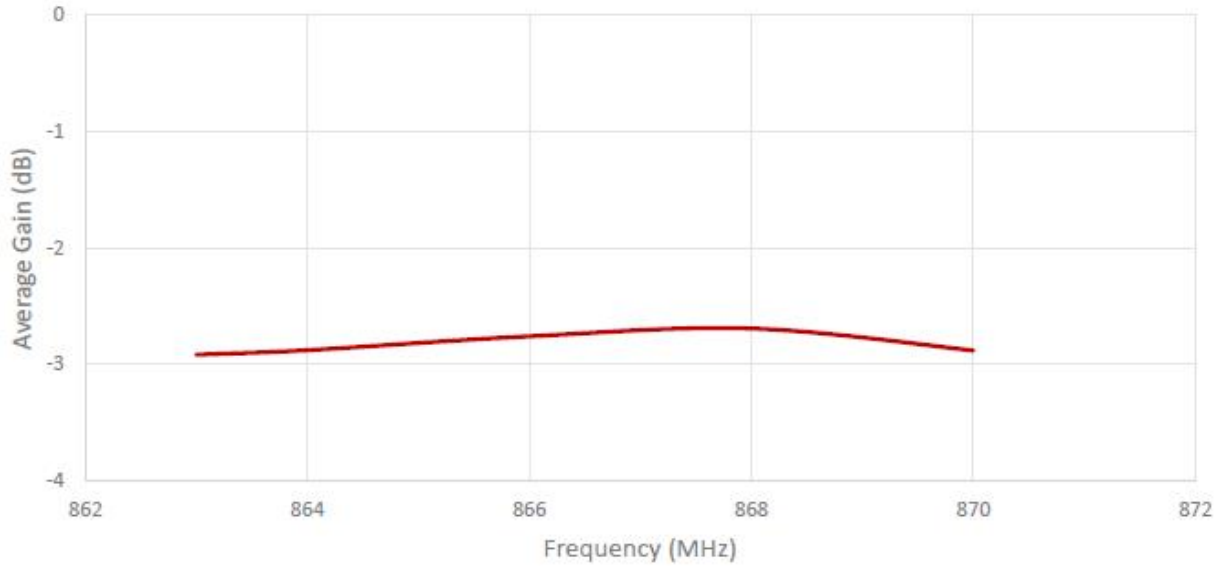


3. Antenna parameters



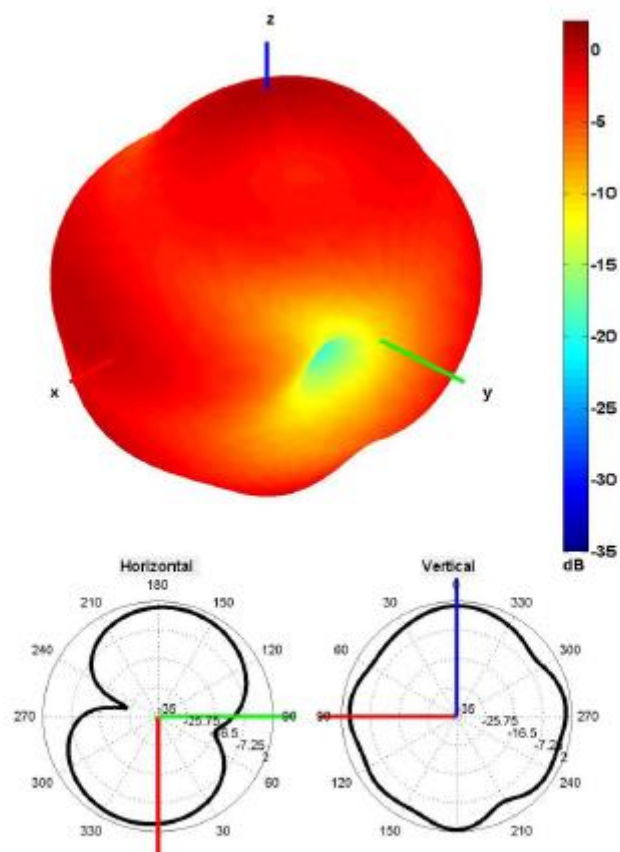






Radiation pattern reference

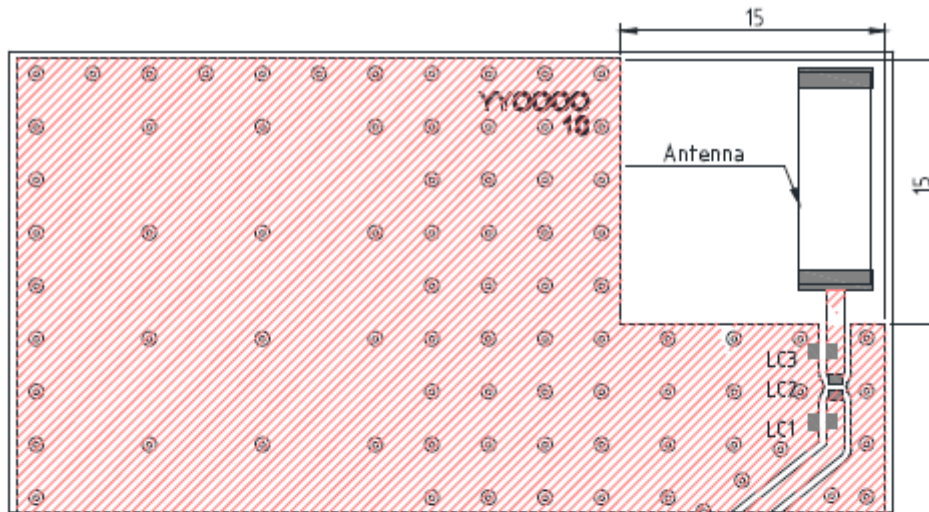




868 MHz Radiation pattern

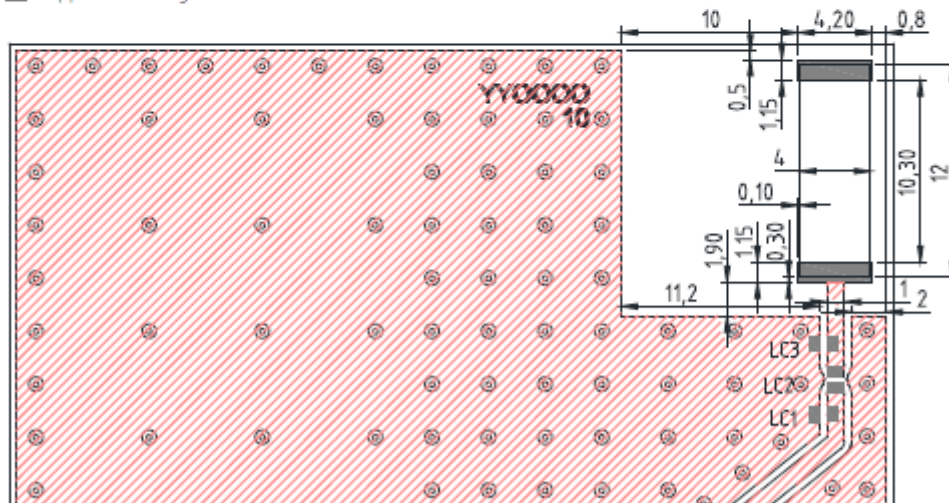


4. PCB layout



Minimum area required for antenna integration (15mm x 15mm)

- Solder Region
- Copper Region
- Copper-Free Region

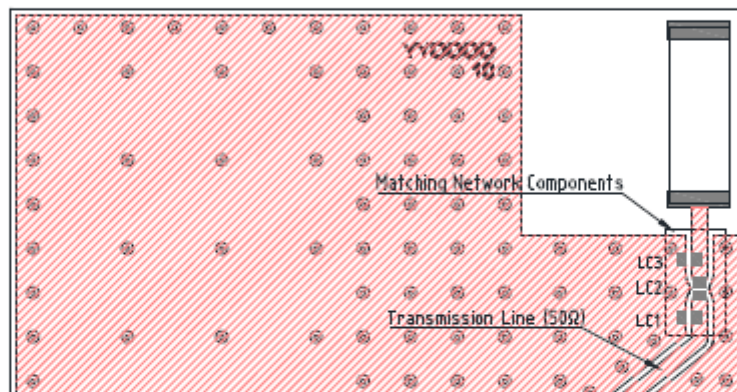
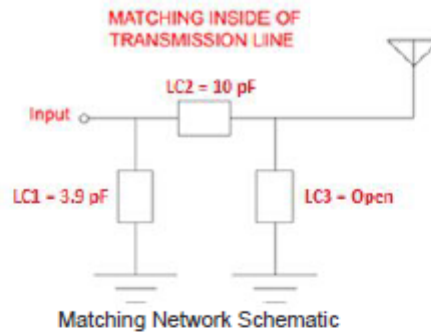


Layout dimensions for antenna integration (mm)

- Solder Region
- Copper Region
- Copper-Free Region



5. Matching components



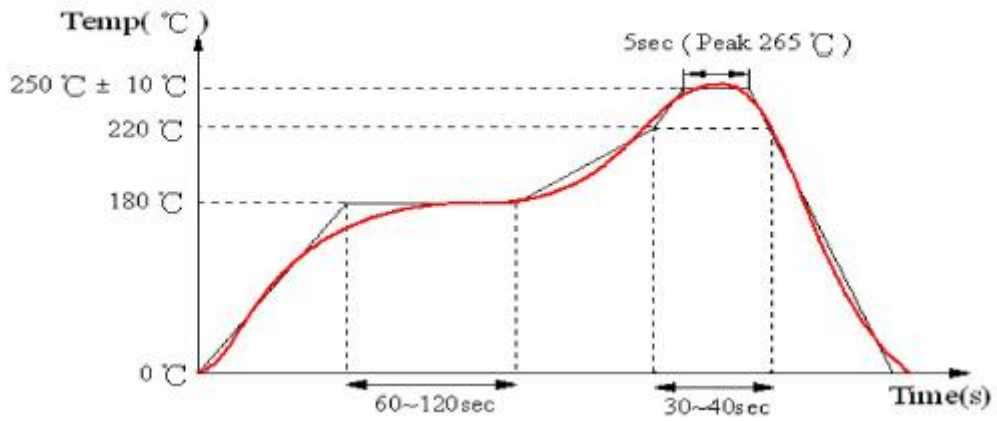
Matching network drawing (LC1=3.9 pF, LC2=10 pF, LC3=DNP)



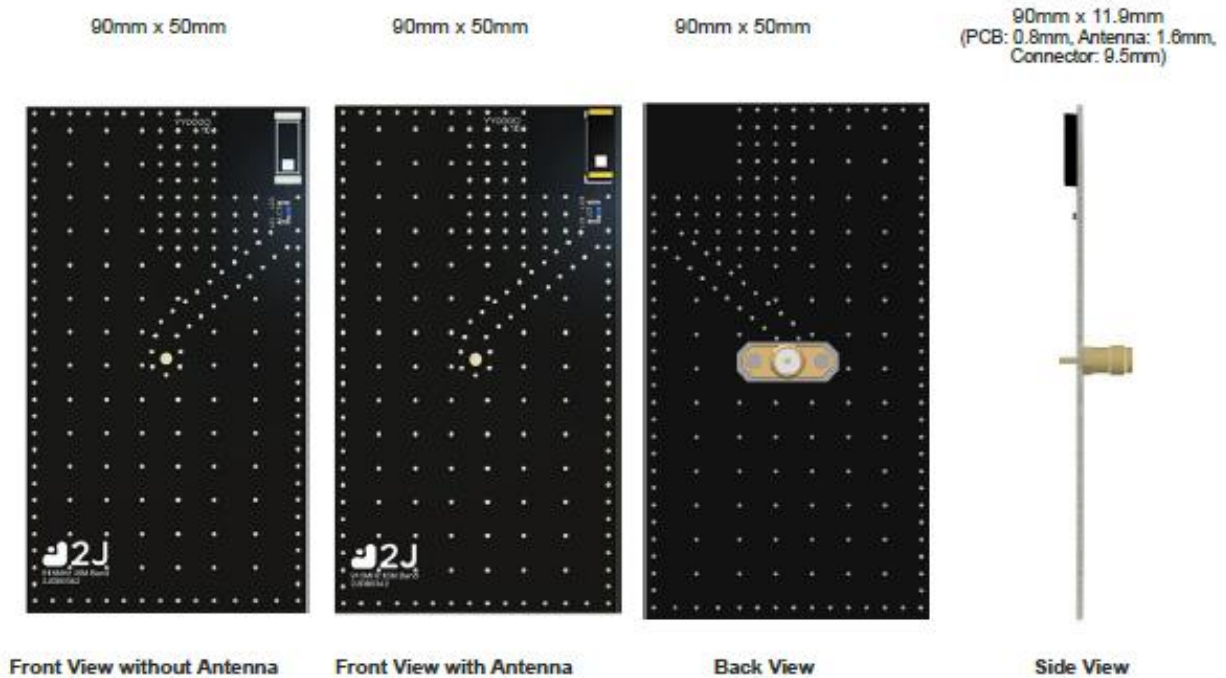
3D View of matching components and recommended values (LC1=3.9 pF, LC2=10 pF, LC3=DNP)



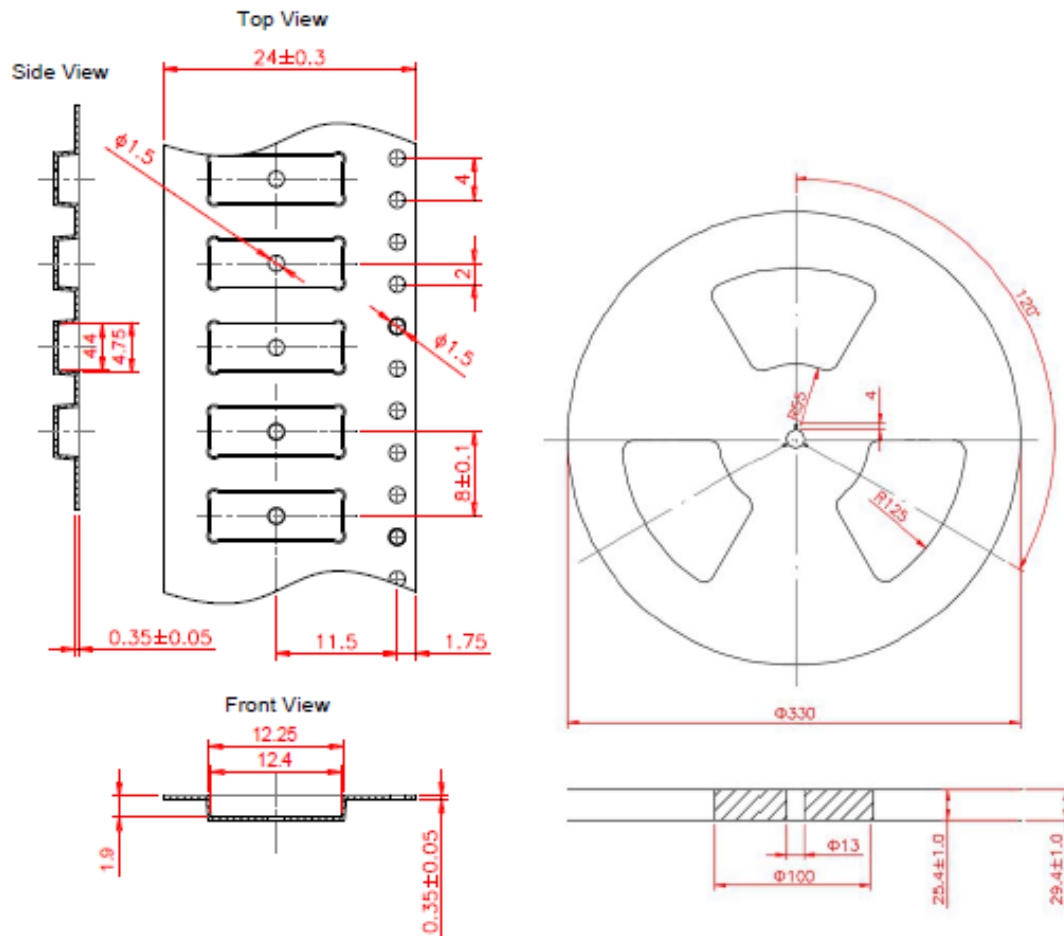
REFLOW TEMPERATURE PROFILE



6. Evaluation Board – AMC-ANT-2JDB0341



7. Tape and Reel Information



Tape and Reel Specifications



8. Packaging

PACKAGING SPECIFICATION

| | |
|------------------------------------|-------------------|
| Antenna | 2JE41 |
| REEL | |
| Max Quantity per Reel | 2,000 |
| REEL BOX | |
| Reels per Box | 1 |
| Reel Box Dimensions (cm) | 35.5 x 35.5 x 4.0 |
| Reel Box Weight (Kg) | 0.68 |
| CARTON | |
| Reels per Carton | 4 |
| Max Quantity per Carton | 8,000 |
| Reel Carton Dimensions (cm) | 38.5 x 36.5 x 21 |
| Reel Carton Weight (Kg) | 2.72 |

